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*The U-2 and Philip Strong***UNORTHODOX: AIRPLANE AND MAN**

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On Wednesday, 12 May 1954, a quiet, close-mouthed man left the Pentagon and returned to his office at the Central Intelligence Agency's original home at 2430 E Street, NW. There he began drafting a memorandum for the record, "Special Aircraft for Penetration Photo Reconnaissance." With that document, he was setting in motion an activity which would have world-shaking ramifications. Philip Grandin Strong, Chief of the Office of Scientific Intelligence's Operations Staff, signed his memorandum and started it on its way to the Office of the Director of Central Intelligence, Allen W. Dulles. Strong wrote:

The following information was secured today in the Office of the Under Secretary of the Air Force.

1. Overflight is now under consideration in the Air Staff as a separate problem. It has been recognized that existing Air Force equipment is not adequate for penetration overflights.

2. Proposals for special reconnaissance aircraft have been received in the Air Staff from Lockheed, Fairchild, and Bell. Each of these proposals recognizes that the present bottleneck is the high-altitude engine. Consequently, the Special Assistant for Research, Air Force, has been pressing General McCormick, Deputy Commander, ARDC, (Air Research and Development Command) to establish on the most urgent basis the test facilities necessary to check engines such as the J-73 at altitude ranges between 70,000 and 80,000 feet.

3. The Lockheed proposal is considered to be the best. It has been given the type designation of CL-282 and in many respects is a jet-powered glider based essentially on the Lockheed Day fighter XF 104. It is primarily subsonic but can attain transonic speeds over the target with consequent loss of range. With an altitude of 73,000 feet over the target, it has a combat radius of 1720 nautical miles but the altitude over target would be reduced to 71,500 feet.¹ The CL-282 can be manufactured mainly with XF 104 jigs and designs. It has, however, a special wing and a slightly different nose assembly. It has no landing gear, being launched from a cart. It can take off within a thousand feet and lands on a reinforced belly rib. It is powered with a J-73 engine and at varied altitude has speeds between 450 and 500 knots. The prototype of this plane can be produced within a year from the date of order. Five planes could be delivered for operations within two years.

¹ Memorandum for the Record, 12 May 54, Subject File (S).

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4. The Bell proposal is a more conventional aircraft, having normal landing gear. As a result, its maximum altitude over target is 69,500 feet and the speed and range are not as good as the Lockheed CL-282.

5. The Air Staff has received information (Note: Of doubtful accuracy) that the British have already overflown Kapustin Yar with a Mark 1 Comet. As this information indicated that this plane had been attacked by Russian interceptors, the chances are that there is confusion with the Ferret interception of which we are already aware. The information received also indicated that the British plan further overflights of Kapustin Yar.

6. It is felt in the Air Staff that two factors are essential to the securing of NSC approval for penetration overflights:

a. A technical solution by Department of Defense which is near the ultimate in reconnaissance aircraft.

b. A friend in court when Defense makes its presentation, i.e. strong support from the DCI.

How did an Agency executive become the conduit for an Air Force project that, unknown to him at the time, had been turned down by the Pentagon?

Strong, a reserve Marine colonel, had been associated with intelligence most of his adult life. He arrived at the Agency in 1950 from the State Department, where he had been Chief of Acquisition and Distribution Division, a remnant of an Office of Strategic Services unit, and where he began an association with Air Force advisory committees that gave him an entree to high-level Pentagon officials. When he moved to CIA in 1950, Strong continued to attend meetings of the Air Force Scientific Advisory Board (AFSAB) and several other panels investigating ways to use new technologies to collect intelligence on the Soviet Union. One of his assignments was on a unique Intelligence Systems Panel (ISP), chaired by the renowned optical expert James C. Baker of Harvard University. This was the key link which brought Strong to the office of Air Force Under Secretary Trevor Gardner in May 1954.

Momentum

Strong's memorandum eventually arrived at the desk of Richard M. Bissell, Jr., who was serving as Special Assistant to the DCI for Planning and Coordination.² Bissell thought the Lockheed plane had merit and told Strong to get some topflight scientists to advise on the matter. However, the CL-282 concept apparently made little impression on Bissell, because he promptly forgot about it. Bissell may have considered the spyplane as just one more in a series of ideas, some of them far-fetched, with which Strong bombarded his superiors.³

Strong's memorandum caused DCI Dulles to send a memorandum on 29 May 1954 to Air Force Chief of Staff Nathan Twining requesting that the Air

² Chief, Support Staff/SI, Memo for ADSI, 13 May 54, TS 115292, p. 6. Downgraded to Secret.

³ Interview with Richard Bissell, 5 October 1984.

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Force take the initiative in obtaining the decisions necessary to permit overflight of the Soviet guided-missile test range at Kapustin Yar. Dulles' memorandum reinforced the sense of urgency about gaining overhead reconnaissance and maintaining contact between CIA and Air Force officials who had met on a number of occasions to explore the possibilities of the proposal.⁴

Strong, taking advantage of his contacts on interagency panels, went about drumming up support for the CL-282 high-altitude aircraft. He mentioned the Lockheed project to fellow ISP member Allen Donovan of Cornell Aeronautical Laboratory, formerly the Curtiss-Wright Research Laboratory, during a conversation, probably late in May.

In his turn, Donovan told ISP Chairman Baker about Strong's bit of intelligence on a new aircraft. Baker suggested that Donovan, an aeronautical engineer and sailplane enthusiast, go to southern California to search out whatever ideas on high-altitude flight might be available from the many aircraft firms there. At this point, neither Donovan nor Baker had seen a drawing of the Lockheed plane. Strong was the only ISP member who knew what it looked like. At some point in mid-1954, Strong apparently obtained a copy of the Lockheed drawing. Donovan was unable to make the west coast trip until late July, when he had other business there. He finally got to Lockheed's Skunk Works in Burbank on Monday, 2 August 1954, and Kelly Johnson showed him conceptual drawings of the CL-282. Donovan thus became the CL-282's next champion. When the ISP reconvened on 24 September 1954, Donovan recommended Kelly's plane to Chairman Baker.

Between the time of Donovan's trip to the west coast, in late July-early August, and the ISP meeting in late September, Polaroid President Edwin H. (Din) Land, also a member of the ISP, traveled to Washington to begin work as Chairman of the Project Three Group (Intelligence) of the Technological Capabilities Panel (TCP). This panel, headed by MIT President James R. Killian, Jr., was organized at the specific request of Killian's close friend, President Dwight D. Eisenhower.

The TCP's main task was to assess the nation's defenses against a surprise attack by the Soviets. Eisenhower's concern was heightened by the paucity of hard intelligence about Soviet capabilities and intentions, and the reportedly growing Soviet fleet of intercontinental BISON bombers. While Land was in Washington in August 1954 organizing his Project Three panel, Strong showed him drawings of the CL-282. As soon as Land saw them, he picked up the telephone and called Jim Baker, another Project Three member, to tell him: "Jim, I think I have the plane you are after."⁵ At the time, Baker, an astronomy professor at Harvard who also designed special-purpose lenses for the Air Force, had taken up residence in the Alban Towers at 3700 Massachusetts Avenue for the six-month duration of the Project Three study so he could continue working on his lens designs when he was not involved in TCP activities. It was not clear to Baker at this time that the plane Land was telling

⁴ Memo for RM Bissell from PG Strong, "Subject: Overflight of Kapustin Yar," 15 Oct 54, Downgraded to Secret.

⁵ Interview with Edwin H. Land, 20 Sep 84.

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him about was the same plane Donovan had spoken to him about in late May or early June and had seen during his recent California trip. After Land showed Baker Strong's copy of Kelly Johnson's conceptual drawing, Baker returned to his apartment and began designing a camera and lens system that would fit in the Lockheed craft.

Toward the end of August, Land conferred with Bissell about the aircraft.⁶ Once again, Bissell was not overly enthused about the subject, but he asked a young Air Force officer assigned to his staff, Lieutenant Douglas E. Ashford, to put together a general status report on aerial reconnaissance programs. In early September, Bissell sent Ashford's report to DDCI Charles Pearre Cabell, an Air Force lieutenant general. In his cover memorandum, Bissell called Cabell's attention to a "specialized aircraft called the Lockheed CL-282."

By late October 1954, Land's five-member TCP panel had drafted a complete program for an overhead reconnaissance effort based on the CL-282. Convinced that any overflights should be conducted by civilians in unarmed, unmarked aircraft rather than by military personnel in military planes, Land and Killian met with President Eisenhower to gain approval for assigning project management to the CIA with Air Force assistance. Kelly Johnson began work within days of hearing that the plane had been approved. He did not even wait for a signed contract. In less than two years the U-2, as the CL-282 was renamed in 1956, was flying operational missions over the Soviet Union.⁷

The First 35 Years

Philip Grandin Strong was born on 4 January 1901 in Englewood, New Jersey. His father, Benjamin Strong, served as Governor of the New York Reserve Bank from 1914 until his death in 1928. The elder Strong, who held numerous foreign decorations, including the Crand Cross of the Legion of Honor, was responsible for a gold fund of \$100 million raised to meet financial obligations during World War I. By the time of his death, his bank's gold reserves were almost 10 percent of all the gold in the world. During the early 1920s, he conferred with West European bankers and financiers informally, helped stabilize currencies, and warned of the dangers of American isolationism.

Philip Strong's mother, Margaret, committed suicide in 1905, when Philip was four years old.⁸ At the age of nine, Phil Strong was sent to the Fessenden School in West Newton, Massachusetts, and later the Hill School in Pottstown, Pennsylvania. In 1918, Strong enrolled in Princeton University, where he joined the varsity swimming team; he left without graduating in 1920.

After spending a few months in Europe, Strong joined the Citizens' National Bank of Oneonta, New York, as a teller in 1921. Two years later, he

⁶ Land interview, 20 Sep 84.

⁷ J.R. Killian, Jr., on *Sputniks, Scientists, and Eisenhower: A Memoir of the First Special Assistant to the President for Science and Technology*, The MIT Press, Cambridge, MA, 1977, p. 68.

⁸ Lester V. Chandler, *Benjamin Strong, Central Banker*, The Brookings Institution, Washington, DC., 1958, p. 30.

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moved to New York City to work in the credit department of Hamilton National Bank. In February 1926, Strong was given a commission in the Marine Corps Reserve. He also acquired an aircraft pilot's license that year. The small, low-budget military forces of the United States between the two world wars evidently could not provide a more permanent career for him, one which might have appealed to his restless temperament. Despite his father's example, banking had little appeal for Phil Strong.

In 1928, after another brief stay in Europe, Strong became an assistant to the president of the Scientific Production Corporation, a railway equipment manufacturer. In August of that year, he married Emma Thompson Smith of Ballston Spa, New York, and, in October, his father died, leaving a trust fund to his children.

In 1930, Strong left the Scientific Production firm to work for Alma Draft Gear Corporation, an Austrian venture-capital attempt to introduce new railway equipment in the United States. This endeavor failed and the firm ceased its US operations in 1932.

During the Great Depression, Phil Strong moved west, where he could supplement his income from the trust fund by working, first as a mill hand and later as a foreman, in an ore-concentration plant of Pacific Coast Borax Company in Amargo, California. While employed by Borax, Strong was granted six-months' leave to attend classes in chemistry, mathematics, mineralogy, metallurgy, geology, and Spanish at the Mackay School of Mines in Reno, Nevada. During this period, Strong became estranged from his wife, Emma, and they were divorced in Reno in November 1932. Strong left the Borax company in 1935 after a serious accident which injured his back. By this time, he had become a captain in the Marine Reserve and was recalled to active duty in September 1935 to attend staff training courses at the Reserve Section Headquarters in Quantico, Virginia. A good marksman, he led the Marine Reserve Rifle Team at national matches during 1935 and 1936.

Adventurer

By then, Strong was 35 years old with hardly a settled career. His trust fund, while not large, permitted him a measure of freedom. His active duty with the Marines ended, in January 1937 he embarked on yet another trip to Europe, only this time he kept traveling east and ended up going around the world. As he described it on his application for federal employment in 1947:

The year 1937 was spent in travel which included the following countries and areas: Germany, Poland, East Prussia, Danzig, Lithuania, Latvia, Estonia, Russia (including Leningrad, Moscow, Kharkov, Caucasus, Trans-Caucasus including Tiflis & Baku), Iran, Irak, Syria, Lebanon, Palestine, Aden, Bombay, Ceylon, Singapore, Java (including Betavia, Soerabaja, and various Indonesian ports), Philippine Islands (including Mindanao, Cebu, Negros & Luzon), and Hong Kong. In Germany, the travel included close contact for the purposes of observation with various Youth Organizations. In Russia, by traveling "hard class," I was able to secure considerable knowledge of parts of the country visited. Some time was spent in Iran in contact

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with various Persian and foreign personalities. The knowledge and experience gained in these travels was and is of great value in my intelligence work.

From another application, it is clear that Strong spent six weeks in Nazi Germany; a month in the Soviet Union during the Great Purge trials; six weeks in Iran; traveled by ship from the Near East to Singapore, where he spent a month, possibly waiting for a tramp steamer to take him to Java, from whence, after waiting three weeks, he caught another ship to the Philippines, where he spent another month. Considering the unsettled political situation in the Baltic states and Soviet Union, and the fact that very few Americans traveled to these regions in the late 1930s, Strong's trip is particularly remarkable.

Intelligence Work

Strong returned to the Litchfield, Connecticut, home of his sister, Mrs. Katherine Strong Humphrey, in December 1937, and, in January 1938 he packed his things and headed west once again. He spent the next two and one-half years prospecting and mining in the deserts of Nevada and California, particularly in the Mohave area. During this period, he lived on his trust income. In October 1940, Strong was recalled to active duty as a Marine Corps captain and detailed to the Office of Naval Intelligence, which had begun building up for World War II. As an assistant section chief in the Strategic Information Section, he worked on various projects, compiling and analyzing information on island chains in the Atlantic and Pacific Oceans and airfield sites in Africa.



Philip G. Strong

From February to September 1942, Captain Strong served as a training officer attached to the Office of Strategic Services (OSS). He helped Colonel Garland H. Williams establish OSS schools at Catoctin, Maryland, and near Quantico, Virginia, specializing in operations, guerrilla techniques, sabotage, and use of explosives. Strong also lectured at these schools on various phases of foreign intelligence. In connection with this work, Strong attended a monthlong refresher course in undercover operations at the British Secret Agent School (Camp X) near Toronto, Canada. Then, in July 1942, he went to England at the head of a group of US officers sent to study at the British School of Industrial Sabotage in Brickendenbury, Hertfordshire. He was personally detailed to specialize in industrial sabotage and worked with groups of Polish, Belgian, Dutch, French, and Norwegian agents during their final period of instruction prior to being assigned missions on the continent.

After returning to this country in September 1942, Strong was given orders to serve overseas in the Pacific theater and left for the west coast, where he attended the USMC's Transport Quartermaster School at Camp Elliott, San Diego, California. Next, Captain Strong was assigned to the staff of Major

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General C.B. Vogel, commander of the First Marine Amphibious Corps. In his new assignment, he had to plan the embarkation of the First Corps from California to Noumea, New Caledonia, in December 1942.

Major Strong was transferred to Vice Admiral Willis A. Lee's staff as Chief Intelligence Officer, Flag Marine Officer, and Staff Legal Officer. At the time he joined Lee's staff, according to Strong's government application forms, there was practically no intelligence information except that received by radio. During the next 27 months, Strong "built up a reference library on all areas of the Pacific, supervised the use of captured enemy documents, prisoner interrogations, and radio intercepts; provided daily summary reports and spot intelligence" to Admiral Lee.

It was a busy period, during which Strong participated as Admiral Lee's representative in planning a number of major Pacific campaigns. He also acted as personal representative of Admirals Lee and Marc A. Mitscher in revising procedures for supplying intelligence to the Combatant Fleet by the Joint Intelligence Center. In all, Strong was involved in some 27 air-sea actions and two major fleet battles. By 1944, Strong was a lieutenant colonel and had been awarded the Legion of Merit (Combat).

In March 1945, Strong was reassigned to Camp Pendleton, California, as an executive officer in the Marine Training and Placement Command. He returned to intelligence work briefly as World War II came to a close, serving as assistant chief of staff, G-2 (Intelligence) and G-3 (Counterintelligence) for Lt. Gen. Holland Smith, commanding general of the San Diego area.

After Japan surrendered, Strong was placed on terminal leave until January 1946 and returned to inactive duty status. By this time, he was 45 years old and had been bitten by the "intelligence bug." He spent almost ten months looking for the "right" job. The Second World War had demanded large numbers of intelligence officers, but the postwar foreign affairs bureaucracy and military services could not accommodate all the talented and unusual people they had trained, people who, like Strong, had found a calling in intelligence work. Eventually, Strong was able to find a position at the State Department in late June 1946 as the Chief of Acquisition and Distribution Division. His responsibilities included procuring and disseminating intelligence materials and foreign publications and coordinating with other government agencies. He functioned as a liaison member of the State Department's Science Policy Survey Group and coauthored "Science and Foreign Relations" and its classified supplement, "Scientific Intelligence," published by State in 1950. Nonetheless, Strong appears to have found this job rather limiting, because he began applying to the Central Intelligence Agency the following year.

CIA Career

In mid-1942, before Strong left for duty in the Pacific, he attended a party in Washington given by his sister where he met Walter L. Pforzheimer, who was in military intelligence. Later that year, Pforzheimer introduced Strong to Gilbert Hunting and his Swedish wife, Margot. Strong and Margot Hunting began a correspondence which lasted through the end of the war. By the time Strong returned to Washington in late 1945, the Huntingts had divorced and

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Strong began courting the Swedish beauty in earnest. In December 1946, Phil Strong married Margot Berglind Hunting; Walter Pforzheimer was best man at the ceremony.

With a strong recommendation from Pforzheimer, Phil Strong became a CIA employee on 3 October 1950 as a physical scientist and Chief of Production Branch in the Plans and Production Staff of the Office of Scientific Intelligence. Seven months later, he transferred to OSI's Operations Staff, which he headed during 1952 and 1953.

In 1953, Strong began an association with the Air Force's Scientific Advisory Board that would ultimately lead him to the Office of the Under Secretary of the Air Force on 12 May 1954. Strong's relationship with the community of scientists in Boston was bolstered by his association with the Boston Scientific Advisory Committee, a group of engineers and physicists from Massachusetts Institute of Technology, Harvard, and other New England universities, which advised CIA on technical matters.

In the late 1940s and early 1950s, it was the Boston scientific community that fueled the Pentagon with vital ideas for defensive and offensive systems. Most of these scholars had participated in MIT's Radiation Laboratory effort during World War II where the British invention of radar was perfected and sonar was developed. Radiation Laboratory, a larger effort than the Manhattan Project, was headed by Dr. Lee A. DuBridge. James Killian, then an assistant to MIT President Karl Compton, was responsible for coordinating the federal government's funding of this project.

As a member of AFSAB, Strong was able to keep abreast of all the advanced projects being funded by the Air Force. He was also aware of a whole range of ideas being proposed by subcommittees and *ad hoc* units which needed funding. During the mid-1950s, Strong was the pipeline through which the Agency learned of numerous Pentagon intelligence collection projects. (It should be remembered that the Defense Intelligence Agency was not established until 1 October 1961.) During the 1950s, each military service had its own G-2 intelligence unit and engaged in all types of intelligence collection. By this time, Strong had become a colonel in the Marine Corps Reserve and used his influence to gather information in the Pentagon, where he had a desk, telephone, and services of a secretary.

Strong forged firm relationships throughout the intelligence community during the mid-1950s that earned his membership on a number of committees and working groups. Quiet though he was, Strong was an inveterate "snoop" and used his membership on government-wide units to ferret out secret projects. His secretary kept a cardfile for each project by codename, by subject, and by funding unit.⁹ Strong set little store by compartmentation, if it meant that some agency or Pentagon unit might be keeping something from him. Indeed, his papers in the Agency archives are one of the few locations for information on CIA's involvement in an infamous Air Force balloon project. These same holdings also provided the bulk of the information that gave rise to the "family jewels" revelations during the stewardship of DCI William E.

⁹ Interview with C.W. "Bill" Sampey, 10 Oct 83.

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Colby in 1975. Strong was not on the distribution for many of these documents, and some were from Pentagon and Agency officers who were unaware that he possessed them.

For more than a decade, Strong was the Agency representative on the AFSAB. In 1955, he was named the CIA member of National Security Council Working Group 5520; the next year he added membership on the Nuclear Energy Working Group. During 1956 and 1957, he was a member of the Ad Hoc Requirements Committee which produced the targeting requests for U-2 overflights. In the fall of 1957, he served for three months as chairman of the Intelligence Advisory Committee's Working Group on Defense Against Ballistic Missiles. From February to June 1958, Strong was detailed as Chairman of the US Communications Intelligence Board's ELINT Task Force.

Strong was retired from the Marine Corps Reserve in 1957 as a brigadier general. In July 1958, he was appointed Deputy Assistant Director of Scientific Intelligence (Collection), a position he held for the next five years. In late 1963, when OSI was transferred from the Directorate of Intelligence to the Directorate of Science and Technology, Strong was moved to the staff of the Deputy Director for Intelligence, and in February 1964 he became the Deputy Chief of the Collection Guidance Staff.

Strong retired from the Agency on 17 April 1964 and was awarded the Distinguished Intelligence Medal by DCI John McCone for his "important contributions to the development of programs which have resulted in major intelligence gains to the United States." Strong and his wife, Margot, moved to a farmhouse in rural Vermont, where they lived until 1968, when Margot became ill with cancer. The Strong's then returned to the Washington area, where Margot died on 7 January 1970. Brigadier General Philip Grandin Strong (USMCR, Ret.) died in Washington, D.C., on 12 November 1971 and was buried in Arlington Cemetery.

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One of CIA's "legends," Strong remains an impressive but enigmatic figure. He does not seem to fit the current profiles of what CIA employees should be. It is hard to imagine recruiting anyone like him today.

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